

REMARKS

In the Office Action, claims 34-42 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Claims 34-39 and 41-42 were rejected under 35 U.S.C. §102(b) as being anticipated by Matsumoto (EP 0439625). Claim 40 was rejected under 35 U.S.C. §103(a) as being unpatentable over Matsumoto as applied to claims 30-39 and 41-42 above, and further in view of Enlow (U.S. Pat. No. 6,254,712).

Matsumoto discloses a plasticator for manufacturing fiber-reinforced thermoplastic resin molded products. Making reference to Figure 5, the apparatus of Matsumoto comprises a substantially cylindrical body 12 having an inner chamber extending from a feeder 8 of a thermoplastic resin to an extrusion head 13, with a feeder 9 of fiber material (fillers) arranged between said feeder of thermoplastic resin and the extrusion head, and an extrusion screw 11 rotatably disposed inside the cylindrical body 12.

In Matsumoto the inner chamber appears to be uniformly and continuously extended from the feeder 8 of thermoplastic resin to the extrusion head 13. However, the Applicant understands that a first portion of said inner chamber could be identified in the region downstream of the feeder 8 of thermoplastic resin, wherein the thermoplastic resin is plasticized and melted, while a second portion of

the inner chamber could be identified downstream of said first portion, in the region where the feeder 9 of fiber material opens into the chamber.

However, it is submitted that the new independent apparatus claim 43 of the present application differs from Matsumoto in that:

an injection channel 11 is present between the first portion of the inner chamber and an end portion of the feeder 20 of mineral and/or vegetable fillers upstream of debouchment of the feeder 20 of mineral and/or vegetable fillers into the second portion of the inner chamber for mixing the fillers and melted thermoplastic resin before introduction into the second portion of the inner chamber.

This feature is clearly not present in Matsumoto and there is no suggestion in Matsumoto as to modify the relevant structure by providing such a by-pass channel.

Diverting the melted thermoplastic resin from the first portion of the inner chamber to the end portion of the feeder 20 of mineral and/or vegetable fillers upstream of debouchment of said feeder 20 into the second portion of the inner chamber is the innovative and inventive solution proposed by the Applicant and gives the substantial advantage of enabling the fillers to be “wet” by the melted thermoplastic material before reaching the final sector of the extruder (see page 3, lines 22-25). This allows elimination of a larger amount of gas and the fillers,

which are not yet compacted in the second portion of the inner chamber, coated in depth with the thermoplastic resin.

This solution is neither anticipated by Matsumoto, nor it appears suggested by Matsumoto or by the common knowledge of a person of ordinary skill in the art. Therefore, it is Applicant's opinion that the new independent apparatus claim 43 of the present application should be considered patentable over the prior art of record.

The wording of new apparatus claim 43 is duly supported by the description and, in any case, the relevant features are clearly illustrated in the drawings, so that a person of ordinary skill in the art is in the position to easily understand all the claimed features in light of the combined teachings of the description and drawings as originally filed.

In particular, the feature of injection channel 11 connecting the first portion of the inner chamber to the end portion of the feeder 20 of mineral and/or vegetable fillers, which constitutes the core of the present invention, is described on page 3, lines 11-18 of the application as published. In view of the above, it is submitted that no new matter has been added.

Furthermore, in case the new apparatus claims 43-51 are allowed, the method claims 22-33 (which were withdrawn from consideration) could be allowed, since it is apparent in view of the foregoing explanations that Matsumoto

does not anticipate or suggest such method and, therefore, the method claims and apparatus claims are linked by the above-discussed common inventive concept.

Based on the foregoing amendments and remarks, it is respectfully submitted that the present application should now be in condition for allowance. A Notice of Allowance is in order, and such favorable action and reconsideration are respectfully requested.

However, if after reviewing the above amendments and remarks, the Examiner has any questions or comments, she is cordially invited to contact the undersigned attorneys.

Respectfully submitted,

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